

REMARKS

The Office action of 27 June 2007 (Paper No. 20070615) has been carefully considered.

The Abstract is being amended in order to reduce its size. Claims 1, 2, 5, 7 and 9 thru 29 are being amended. Thus, claims 1 thru 29 are pending in the application.

It is first noted that, the following three (3) U.S. patent references are relied upon by the Examiner in the current Office action against the claims of this application. However, none of these references were cited either by Applicant in an Information Disclosure Statement or by the Examiner in a PTO-892. Accordingly, Applicant prepared and attached herewith a PTO-1449 citing these three references relied upon by the Examiner in this Office action so as to make there reference of record.

- Sato *et al.*, U.S. Patent Publication No. 2002/0128907;
- Christensen *et al.*, U.S. Patent No. 5,764,634; and
- Merchant *et al.*, U.S. Patent No. 6,732,184.

In paragraph 4 of the Office action, the Examiner objected to the Abstract because it exceeds 150 words. Accordingly, the Abstract is being amended to reduce its size to less than 150 words. Accordingly, the objection to the Abstract should no longer apply.

In paragraph 2 of the Office action, the Examiner objected to the drawings and required Figures 1 and 2 be labeled "Prior Art" because "only that which is old is illustrated." Accordingly, Figures 1 and 2 are being amended to insert a "Prior Art" label in each figure, and replacement drawings of Figures 1 and 2 are being submitted herewith. Acknowledgment of entry of the replacement drawings in the next Office action is requested.

In paragraph 4 of the Office action, the Examiner rejected claim 29 under 35 U.S.C. §101 on the grounds that the claimed invention is directed to non-statutory subject matter. For the following reasons, Applicant respectfully disagrees.

Specifically, patentable inventions are defined in 35 U.S.C. §101, which states that a patent may be obtained for “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof” (quoting from the statute). Thus, among the types of inventions which may be patented are a “manufacture”, that is, an article of manufacture.

Consistent with the statute, claim 29 recites a “computer-readable medium”. As is well known in the art, this can consist of a computer disk, either a hard disk or removable disk, for storing thereon a data structure as defined in claim 29. Such a disk or “computer-readable medium” constitutes an “article of manufacture”, and thus falls within the category of patentable inventions listed in 35 U.S.C. §101.

In paragraph 4 bridging pages 2 and 3 of the Office action, the Examiner draws a distinction between a computer-readable medium which is used to store data and a computer-readable medium which is encoded or embodied with a computer program or set of instructions. The Examiner contends that a computer-readable medium which is encoded with a computer program or instructions “is a computer element which, when executed by a computer, defines structural and functional interrelationships between the instructions and a computer to connect the instructions functionality to be realized” (quoting from page 3, lines 3-5 of the Office action).

In that regard, it should be noted that independent claim 29 recites a computer-readable medium having stored thereon a data structure comprising first, second, third

and fourth fields of data, each field of data being recited as performing a specific function or set of functions relative to the overall invention. Thus, the first field of data relates to monitoring load states of access points, the second field of data relates to transmitting a load increase suppressing signal, the third field of data relates to transmitting a load increase suppressing signal, and the fourth field relates to suppressing an increase of load in corresponding access points. Furthermore, the second field of data comprises first, second, third and fourth sub-fields, each relating to the performance of other functions in accordance with the invention.

Thus, to summarize, not only does independent claim 29 recite an article of manufacture which is consistent with the list of inventions which may be patentable as contained in 35 U.S.C. §101, but also independent claim 29 recites data fields which perform, or are closely related to the performance of, specific functions of the invention.

Therefore, for the reasons stated above, it is respectfully submitted that independent claim 29 recites statutory subject matter, and the rejection of claim 29 under 35 U.S.C. §101 should be withdrawn.

In paragraph 6 of the Office action, the Examiner rejected claims 1 thru 29 under 35 U.S.C. §112 (second paragraph) as being indefinite. The Examiner states that it is not clear how “idle state” is defined for access points. In addition, claims 5, 7, 9 and 11 are rejected under 35 U.S.C. §112 (second paragraph) for lack of antecedent basis.

With respect to the rejection of claims 5, 7, 9 and 11 under 35 U.S.C. §112 (second paragraph) for lack of antecedent basis, those claims are being amended in order to overcome the problem of lack of antecedent basis. Thus, the rejection of 35 U.S.C. §112 (second paragraph) should be withdrawn.

With respect to the Examiner's statement that it is not clear how "idle state" is defined for access points, it is submitted that one of ordinary skill in the art, upon reviewing the subject application, would realize that an access point is in an "idle state" when it is not handling any calls or transmissions. Such a definition, although not expressly stated in the specification, would be clear to one of ordinary skill in the art upon reviewing the specification in its entirety, and upon reviewing the manner in which the term "idle state" is used in both the specification and claims of the present application.

Finally, in the latter regard, a typical dictionary definition of the word "idle" is "not occupied or employed", and also "inactive" (WEBSTER'S New Collegiate Dictionary, G & C Merriam Co., 1977, page 569). Thus, the term "idle state" as used in the present application would be clearly known to persons of ordinary skill in the art in this technology, and thus the rejection of claims 1 thru 29 under 35 U.S.C. §112 (second paragraph) should be withdrawn.

In paragraph 8 of the Office action, the Examiner rejected claims 1, 7, 11, 13, 15 and 23 under 35 U.S.C. §102 for alleged anticipation by Eriksson *et al.*, U.S. Patent Publication No. 2001/0012778. In paragraph 10 of the Office action, the Examiner rejected claims 2, 14 and 24 under 35 U.S.C. §103 for alleged unpatentability over Eriksson *et al.* '778 in view of Lor *et al.*, U.S. Patent Publication No. 2004/0068668, de Seze, U.S. Patent No. 5,894,472 and Dillon, U.S. Patent No. 6,338,131. In paragraph 11 of the Office action, the Examiner rejected claims 3, 8, 17 and 20 under 35 U.S.C. §103 for alleged unpatentability over Eriksson *et al.* '778 in view of Sato *et al.*, U.S. Patent Publication No. 2002/0128907. In paragraph 12 of the Office action, the Examiner rejected claim 25 under 35 U.S.C. §103 for alleged unpatentability over Eriksson *et al.* '778 in view of Lor *et al.* '668, de Seze '472 and Dillon '131, and further in view of Sato

et al. '907. In paragraph 13 of the Office action, the Examiner rejected claims 4, 12, 18 and 22 under 35 U.S.C. §103 for alleged unpatentability over Eriksson *et al.* '778 in view of Christensen *et al.*, U.S. Patent No. 5,764,634 and Merchant *et al.*, U.S. Patent No. 6,732,184. In paragraph 14 of the Office action, the Examiner rejected claim 26 under 35 U.S.C. §103 for alleged unpatentability over Eriksson *et al.* '778 in view of Lor *et al.* '668, de Seze '472, Dillon '131, and Sato *et al.* '907, and further in view of Christensen *et al.* '634 and Merchant *et al.* '184. In paragraph 15 of the Office action, the Examiner rejected claims 16, 27 and 29 d under 35 U.S.C. §103 for alleged unpatentability over Eriksson *et al.* '778 in view of Langberg *et al.*, U.S. Patent No. 5,852,630. In paragraph 16 of the Office action, the Examiner rejected claim 28 under 35 U.S.C. §103 for alleged unpatentability over Eriksson *et al.* '778 in view of Langberg *et al.* '630, and further in view of Lor *et al.* '668, de Seze '472 and Dillon '131. In paragraph 17 of the Office action, claims 5, 6, 9, 10, 19 and 21 are objected to, but the Examiner stated that these claims would be allowable if rewritten to overcome the 35 U.S.C. §112 rejection and if rewritten in independent form including all of the limitations of the base claim and any intervening claims. For the reasons stated below, it is submitted that the invention recited in the claims, as now amended, is distinguishable from the prior art cited by the Examiner so as to preclude rejection under 35 U.S.C. §102 and §103.

As a general comment, it should first be noted that the cited prior art is based on a cellular system which is divided into cells, whereas the presently claimed invention pertains to a wireless local area network (WLAN) system.

The basic characteristic of the cellular system is that each cell is a neighbor to, or is adjacent to, other cells. Thus, the cited prior art calls for the transfer of ongoing calls from specific cells which carry the load from other neighboring or adjacent cells.

However, in the present invention, a number of access points (APs) transfer traffic to the WLAN terminals within the coverage of the APs. Thus, when a specific AP carries the load, the management system should find a neighboring or adjacent AP in an idle state.

Therefore, in order that the management system perform load balancing, it should acquire or determine the positions of the APs, and there should be APs in an idle state surrounding the APs having load values which have reached a threshold value. If there are no such APs in the idle state, more load will be created while idle access points are identified. Thus, it is important that the management system be able to acquire or determine the positions of the APs. However, such a characteristic, feature or capability is not present in the disclosures of the cited references.

Furthermore, in the cited prior art (specifically, Ericksson *et al.* '778), the MSC only performs message transferring. In addition, BSC1 (which carries loads) transfers ongoing calls through the MSC to BSC2, and BSC2 (which carries loads) transfers ongoing calls through the MSC to BSC1. Thus, the cited reference calls for the decentralized management of loads while, in contrast, the claimed invention calls for the centralized management of loads.

In paragraph 8 of the Office action, the Examiner rejects claims 1, 7, 11, 13, 15 and 23 under 35 U.S.C. §102 for alleged anticipation by Eriksson *et al.* '778. Specifically, on page 5 of the Office action, the Examiner refers to the disclosure, in Eriksson *et al.* '778, of a "RUN" value. As indicated in paragraph [0025], the RUN disclosed in the patent is a resource utilization number which defines the "number of active traffic channels" associated with a particular access point. Thus, in Eriksson *et al.* '778, RUN defines the number of active channels associated with an access point, but it

does not define a load suppressing signal as alleged by the Examiner at page 5, lines 5-6 of the Office action.

Referring to the language of independent claim 1 as an example, in the last paragraph of the claim, it is stated that a management system comparatively evaluates load states of each access point by receiving load state information from the access points. Thus, the RUN of Eriksson *et al.* '778 corresponds to the loads state information received from the access points, as recited in independent claim 1, as well as in the various other independent and dependent claims.

Further referring to independent claim 1 as an example, once the management system makes a comparative evaluation of the loads state of each access point, it transmits a load increase suppressing signal to access points whose load values are more than the threshold value (again, *see* the last paragraph of independent claim 1 as an example). In contrast, Eriksson *et al.* '778 does not transmit a load increase suppressing signal to access points, but only receives load state information (RUN) from the access points.

Thus, independent claims 1, 13 and 23 define the invention in a manner distinguishable from Eriksson *et al.* '778 so as to preclude rejection under 35 U.S.C. §102 or §103.

Furthermore, on page 5 of the Office action, the Examiner alleges that, in Eriksson *et al.* '778, the cells whose RUN values are below the predetermined threshold are viewed as being in the idle state. Again, there is no disclosure or suggestion in Eriksson *et al.* '778 of such a capability or function. In that regard, the Examiner cites paragraph [0030] of Eriksson *et al.* '778, but that paragraph only discusses a load indication message

generated in response to review of the RUN of a cell, but does not specifically disclose or suggest the establishment of an “idle state” as recited with respect to “other access points around the access points whose load values are more than the threshold value” as recited in the last two lines of independent claim 1, as well as various other independent and dependent claims in this application.

At the bottom of page 5 of the Office action, with regard to claims 7 and 11, and also on page 10 of the Office action with regard to claims 12 and 22, the Examiner alleges that paragraph [0030] of Eriksson *et al.* ‘778 discloses transmitting information on the access-attempting wireless local area network terminals to other idle access points, and the idle access point attempting access to the wireless local area network terminals. Applicant respectfully disagrees because a review of paragraph [0030] of Eriksson *et al.* ‘778 does not mention idle access points, and does not mention the transmission of information as recited in claims 7, 11, 12 and 22.

On page 6 of the Office action, the Examiner alleges that paragraph [0026] of Eriksson *et al.* ‘778 discloses the subject matter recited in claim 15. However, a review of paragraph [0026] of the cited patent fails to reveal or even suggest the various functions recited in claim 15 of the present application.

At the bottom of page 8 of the Office action, with regard to claims 8 and 20, the Examiner again alleges that paragraph [0030] discloses the transmitting of information on access-attempting wireless local area network terminals to other idle access points, and the idle access points attempting access to the wireless local area network terminals, similar to the allegations with respect to claims 7, 11, 12 and 22 discussed above. Again, the cited paragraph of Eriksson *et al.* ‘778 does not disclose or suggest the subject matter recited in claims 8 and 20.

In paragraph 13 of the Office action (bridging pages 9 and 10 thereof) the Examiner admits that Eriksson *et al.* '778 does not disclose deleting network node addresses of the wireless local area network terminals by basic service set tables and intercepting the access of the wireless local area network terminals when the wireless local area network terminals, which do not continuously generate data traffic and keep accessing, generate the data traffic. However, the Examiner cites Christensen *et al.* '634 as teaching the deletion of network node addresses of the wireless local area network terminals, and also cites Merchant *et al.* '184 as teaching the intercepting of the access of the wireless local area network terminals. The same allegations are made on page 11 of the Office action with respect to claim 26.

However, a review of column 4, lines 28-32 of Christensen *et al.* '634, as well as a review of column 8, lines 38-47 of Merchant *et al.* '184, fails to reveal the “deleting” and “intercepting” functions recited in claims 4, 18 and 26. Therefore, it is respectfully submitted that those functions distinguish the invention recited in claims 4, 18 and 26 from the prior art.

In the paragraph bridging pages 10 and 11 of the Office action, with respect to claims 12 and 22, the Examiner alleges that Eriksson *et al.* '778 further discloses transmitting information on the access-attempting wireless local area network terminals to other idle access points, citing paragraph [0030] of Eriksson *et al.* '778. However, as was stated above relative to claims 7 and 11, which are rejected on a similar basis on page 5 of the Office action, the cited paragraph of Eriksson *et al.* '778 does not disclose or suggest the function recited in claims 12 and 22.

In paragraph 15 on pages 12 and 13 of the Office action, with respect to the rejection of claims 16, 27 and 29, the Examiner again cites Eriksson *et al.* '778 for

disclosure of the “RUN” of a cell, and makes allegations similar to those made on pages 5 and 14 of the Office action. As discussed above, the RUN values cited in Eriksson *et al.* ‘778 do not correspond to the load suppressing signal recited in the claims, but rather correspond to the load state information recited in the claims. Moreover, the Examiner’s statement at the end of the first paragraph on page 13 of the Office action (relative to the RUN value being below a predetermined threshold value and thus being viewed as indicating an “idle state”) is also inappropriate for the reasons stated above.

On page 14 of the Office action, with respect to the rejection of claims 16 and 29, the Examiner makes a point similar to that discussed in the immediately preceding paragraph. Thus, for the reasons stated above, the rejection of claims 16 and 29 also must be considered inappropriate.

Finally, in paragraph 16 of the Office action, the Examiner rejects claim 28 on the basis of Eriksson *et al.* ‘778 in combination with Lor *et al.* ‘668, de Seze ‘472 and Dillon ‘131. However, Eriksson *et al.* ‘778, even when combined with the other three secondary references, does not disclose or suggest all of the elements recited in dependent claim 28. Moreover, there is nothing within the “four corners” of Eriksson *et al.* ‘778 which would motivate or instruct a person of ordinary skill in the art to seek and obtain the disclosures of other three references in order to modify the disclosure of Eriksson *et al.* ‘778 and arrive at the present invention.

In the latter regard, it should also be noted that the same argument relative to lack of instruction or motivation in Eriksson *et al.* ‘778 for seeking secondary references also applies to various other claims of the present application, and thus the various combinations of references discussed in the Office action constitute an improper combination under 35 U.S.C. §103.

In view of the above, it is submitted that the claims of this application are in condition for allowance, and early issuance thereof is solicited. Should any questions remain unresolved, the Examiner is requested to telephone Applicant's attorney.

No fees are incurred by this Amendment.

Respectfully submitted,



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